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Chem 201-02

Paper Chromatography of Dyes Procedure

* Obtain a 10x20 cm piece of paper and a 600ml beaker. Draw a line 1 cm from the bottom of the page. Create 14 lines of about 1 cm separation , handle paper with gloves or tweezers.
* Obtain a spotting plate with 12 wells. Designate a well for each dye and drop 1 -2 drops of dye into each. To make black dye mix the other colors.
* Obtain 12 capillaries for transfer of the dyes. Use the capillary to transfer each dye onto a predestinated dot within a strip on the paper from the first step. Allow to dry and then repeat on the same spots a second time for consistency.
* Obtain 2 black markers and touch each of their tips to an unused sample application mark. Record which marker made each spot.
* Cut a square of aluminum foil to fit over the mouth of a 600ml beaker. Add less than 5 mm(height) of development solvent using a glass rod to prevent splatter. Make sure the solvent will not immerse the filter paper when it is placed in the beaker.
* Cover the beaker with plastic wrap and let sit for 6 min so the solvent can saturate the air.
* Roll the paper into a cylinder without overlapping the edges and staple it closed.
* Put the paper into the cylinder spot side down and recover.
* Allow to sit until the solvent ascends to 1 cm below the top of the paper. Once the solvent reaches this point remove the paper from the beaker. Lay the paper flat and mark the solvent line before the solvent evaporates.
* Allow the paper to dry
* Outline in pencil any spots that are visible from all of the samples. Calculate Rf value for each spot. Using Rf values try to identify the unknown dyes.